

518,825

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



Rec'd PCT/PTC

31 DEC 2004



(43) International Publication Date
8 January 2004 (08.01.2004)

PCT

(10) International Publication Number
WO 2004/003654 A1

(51) International Patent Classification⁷: **G02F 1/35**

(21) International Application Number:
PCT/IB2003/002767

(22) International Filing Date: 19 June 2003 (19.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
102 29 267.1 28 June 2002 (28.06.2002) DE

(71) Applicant (for DE only): **PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH** [DE/DE]; Stein-
damm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US):
KONINKLIJKE PHILIPS ELECTRONICS N.V.
[NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven
(NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BACHMANN, Pe-
ter, Klaus** [DE/DE]; c/o Philips Intellectual Property &
Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

CARON, Michel [FR/DE]; c/o Philips Intellectual Prop-
erty & Standards GmbH, Weissshausstr. 2, 52066 Aachen
(DE). **WIECHERT, Detlef, Uwe** [DE/DE]; c/o Philips In-
tellectual Property & Standards GmbH, Weissshausstr. 2,
52066 Aachen (DE).

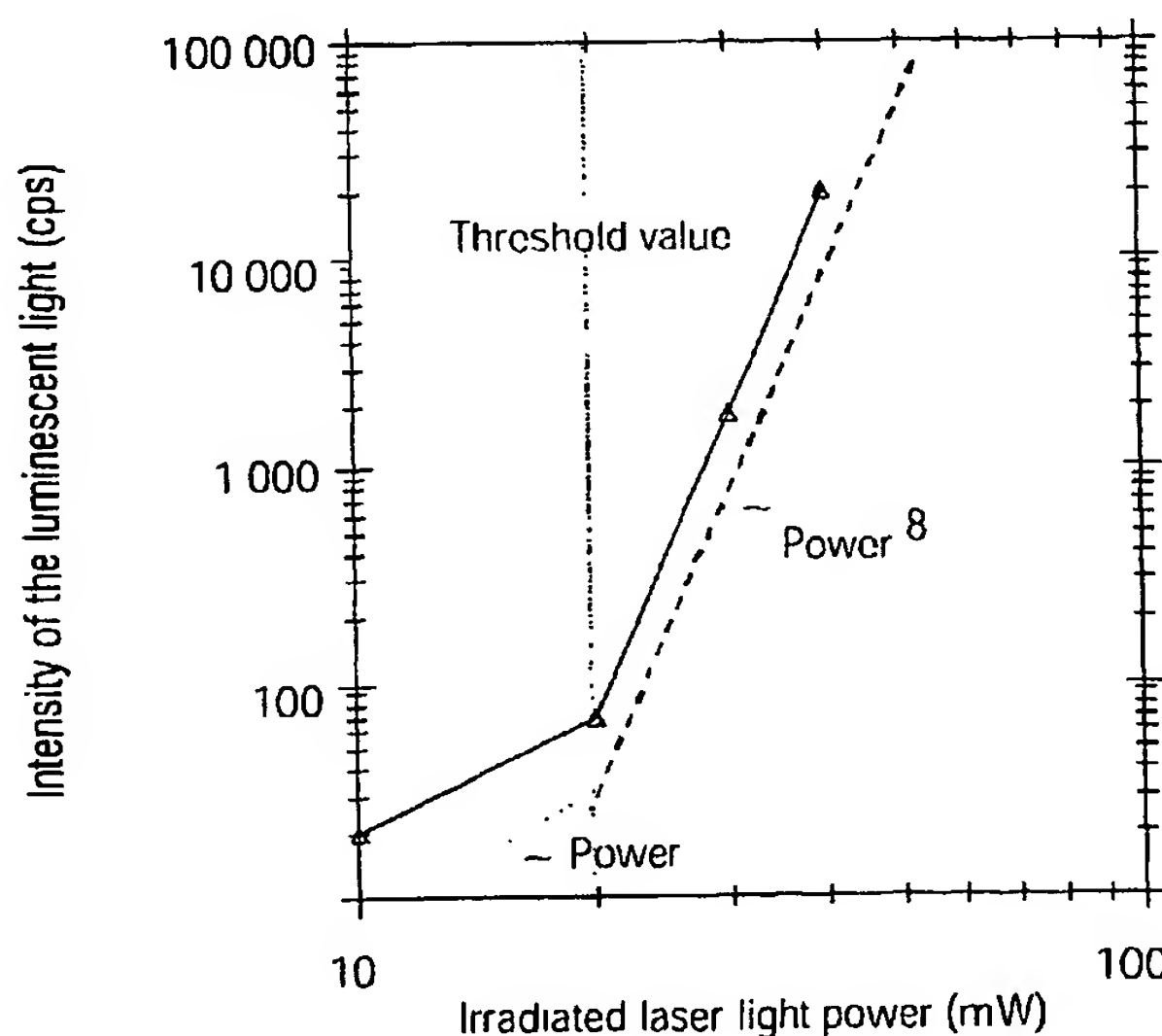
(74) Agent: **MEYER, Michael**; Philips Intellectual Property &
Standards GmbH, Weissshausstr. 2, 52066 Aachen (DE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD,
SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: OPTICAL SIGNAL PROCESSING DEVICE AND NON-LINEAR OPTICAL COMPONENT



(57) Abstract: An optical signal processing device equipped with a source of electromagnetic radiation of variable intensity, a non-linear optical component, which comprises at least one photoluminescent carbon nanotube, and with a means of detecting electromagnetic radiation utilizes the non-linearity of the photoluminescence of carbon nanotubes for optical signal processing. The invention also relates to a non-linear optical component.

WO 2004/003654 A1